General Education Annual Course Assessment Form

Course Number/Title: Math 10  Math for General Education  GE Area: B4

Results reported for AY: 2014 - 2015  # of sections: 5  # of instructors: 4

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Department Chair: Bem Cayco  College: Science

Instructions: Each year, the department will prepare a brief (two page maximum) report that documents the assessment of the course during the year. This report will be electronically submitted to <curriculum@sjsu.edu>, by the department chair, to the Office of Undergraduate Studies, with an electronic copy to the home college by October 1 of the following academic year.

Part 1

To be completed by the course coordinator:

(1) What SLO(s) were assessed for the course during the AY?

SLO 3: Mathematical Concepts courses should prepare the student to arrive at conclusions based on numerical and graphical data.

(2) What were the results of the assessment of this course? What were the lessons learned from the assessment?

Assessment data was collected from all five sections of Math 10 offered during the 2014 – 2015 academic year.

Using embedded questions on the final exam, we found that 51.6% of the 159 students who took Math 10 performed at the C level or higher on questions related to SLO 3. This is lower than the 66% obtained in 2011 – 2012 when SLO 3 was last assessed. Students enrolled in Math 10 are in majors that do not require any specific mathematical preparation. Students in such majors often do not have very strong math backgrounds. The lowest performance was in two sections taught in the fall using a book that proved to be more difficult than the books used other semesters.

Sample questions used for this assessment:

1. The number of compact discs shipped according to the Recording Industry Association of America in Washington, D.C. is displayed in the following table:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Compact Discs (in millions)</td>
<td>407.5</td>
<td>662.1</td>
<td>778.9</td>
<td>847.0</td>
<td>942.5</td>
</tr>
</tbody>
</table>

The data seems to indicate that the number shipped can be modeled with an increasing exponential function, \( A = Ce^{kt} \). Using 1992 as \( t=0 \) and 2000 as \( t=8 \), (a) Find an exponential function to model the data, (b) Graph the function in part (a).
2. Determine the length of side $g$ in the diagram below.

![Diagram](image)

3. In a book by the famous Russian author Dostoyevsky, a player of European roulette observes that on a particular day of 370 spins of the roulette wheel, the number 0 came up only once. Recall that in European roulette $P(0 \text{ on any given spin}) = 1/37$. (a) Calculate the exact probability (no Z’s here) of one or fewer zeros in a given day’s play of 370 spins. (b) What assumptions did you make to calculate the probability in the previous part? (c) The probability calculated in part (a) could be considered a “p-value”, and since it is so small could have two interpretations: Either (1) the wheel is fair and the player in the book by Dostoyevsky simply observed a rare event, or (2) the assumptions of the calculation were incorrect (perhaps the probability of observing “0” on each spin is not really 1/37, or maybe the wheel has been set to not land on “0” as often as other numbers, or perhaps the spins of the wheel are not independent, or . . .). What conclusion would you draw regarding the probability calculations, the assumptions of the calculations, and the fairness of the wheel, based on the probability found in (a)?

(3) What modifications to the course, or its assessment activities or schedule, are planned for the upcoming year? (If no modifications are planned, the course coordinator should indicate this.)

We have not planned any modifications to the course or assessment activities or assessment schedule for Math 10.

**Part 2**

To be completed by the department chair (with input from course coordinator as appropriate):

(4) Are all sections of the course still aligned with the area Goals, Student Learning Objectives (SLOs), Content, Support, and Assessment? If they are not, what actions are planned?

Yes, all sections of Math 10 are still aligned with the B4 area goals.

(5) If this course is in a GE Area with a stated enrollment limit (Areas A1, A2, A3, C2, D1, R, S, V, & Z), please indicate how oral presentations will be evaluated with larger sections (Area A1), or how practice and revisions in writing will be addressed with larger sections, particularly how students are receiving thorough feedback on the writing which accounts for the minimum word count in this GE category (Areas A2, A3, C2, D1, R, S, V, & Z) and, for the writing intensive courses (A2, A3, and Z), documentation that the students are meeting the GE SLOs for writing.

This does not apply to Math 10 in Area B4.